ABSTRACT OF THE DISCLOSURE

Disclosed herein is an optical signal processing device which can give stable temporal order to the modulation-phases of a plurality of optical signals. The optical signal processing device includes an optical demultiplexer and an optical multiplexer for adaptation to WDM (wavelength division multiplexing). The optical demultiplexer has an input port and a plurality of output ports. The input port is adapted to accept WDM signal light obtained by wavelength division multiplexing a plurality of optical signals having different wavelengths. The optical multiplexer has an output port and a plurality of input ports. The plural output ports of the optical demultiplexer and the plural input ports of the optical multiplexer are connected by a plurality of optical paths, respectively. Each optical path is provided with a delay adjuster. The modulation-phase of at least one of the plurality of optical signals is detected by a detector, and the delay adjuster is controlled by a controller according to the modulation-phase detected by the detector. Accordingly, the modulation-phases of all the optical signals can be easily made to coincide with each other.